AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

Claims 1-23 (Cancelled)

24. (Currently Amended) A method for recovering a volume of hydrocarbon from a submarine or subterranean reservoir comprising:

conducting an electromagnetic survey to determine a content of the submarine or subterranean reservoir having an electromagnetic characteristic and having an approximate geometry and location that are known, comprising:

applying a time varying electromagnetic field in the form of a wave to the strata containing the reservoir;

detecting the electromagnetic wave field response;

and analyzing the effects on the characteristics of the detected field that have been caused by the reservoir,

thereby determining the content of the reservoir, based on the analysis, wherein the analysis comprises comparing the

electromagnetic characteristic theoretically predicted for the reservoir based on the approximate geometry of the reservoir and based on the reservoir being a water-bearing or hydrocarbon-bearing reservoir to the electromagnetic characteristic for the reservoir that is determined from the detected electromagnetic wave field response of the reservoir, wherein a distance between a transmitter and a receiver is given by the formula $0.5\lambda \leq L \leq 10\lambda$; where λ is the wavelength of the transmission through an overburden and L is the distance between the transmitter and the receiver;

inferring from the electromagnetic survey that the volume of hydrocarbon is present in the reservoir; and

producing the volume of hydrocarbon from a well that penetrates the reservoir.

25. (Previously Presented) The method of claim 24, wherein the volume of hydrocarbon comprises oil.

26. (Previously Presented) The method of claim 24, wherein the volume of hydrocarbon comprises natural gas.

27. (Previously Presented) The method of claim 24, wherein the field is applied using at least one stationary transmitter located on the earth's surface.

28. (Previously Presented) The method of claim 24, wherein the at least one transmitter is located proximate a bed of a body of water, the bed including a seabed.

29. (Previously Presented) The method of claim 24, wherein the field is transmitted for a period of time of from 30 seconds to 60 minutes.

30. (Previously Presented) The method of claim 24, wherein the at least one stationary receiver is arranged to detect a direct wave and a wave reflected from the reservoir, and the analysis includes extracting phase and amplitude data of the reflected wave from corresponding data from the direct wave.

31. (Previously Presented) The method of claim 24, wherein the wavelength of the applied time varying electromagnetic field wave is given by the formula

$0.1s \leq \lambda\ 10s$;

where λ is the wavelength of the transmission through an overburden overlying a reservoir and s is the distance from a seabed to the reservoir.

32. (Previously Presented) The method of claim 24, wherein, substantially

$l = 2s = 2\ \lambda$, wherein s is a distance from a seabed located over the reservoir to the reservoir.

33. (Previously Presented) The method of claim 24, wherein the transmission frequency of the time varying electromagnetic field is from 0.1 Hz to 1 kHz.

34. (Previously Presented) The method of claim 24, wherein the analysis includes comparing the results of measurements taken with results of a mathematical simulation model based on known properties of the reservoir and conditions of an overburden.

35. (Previously Presented) The method of claim 24, including suppressing a direct wave, thereby reducing the required dynamic range of receivers receiving a reflected wave and increasing resolution of the reflected wave.

36. (Previously Presented) The method of claim 24, including as preliminary steps; performing a seismic survey to determine the geological structure of a region and analyzing the survey to reveal the presence of a subterranean reservoir.

37. (Previously Presented) The method of claim 24, wherein the electromagnetic characteristic theoretically predicted for the reservoir is a member of the group consisting of resistivity and permittivity.

38. (Previously Presented) The method of claim 24, further comprising equipping a vessel with the transmitter.

39. (Previously Presented) The method of claim 38 wherein the vessel is a ship.

40. (Previously Presented) The method of claim 38 wherein the transmitter is attachable to a cable that is attachable to the vessel whereby the transmitter may be deployed by the vessel.

41. (Previously Presented) The method of claim 38 wherein the transmitter comprises a dipole antenna.

42. (Previously Presented) The method of claim 24 further comprising drilling the well that penetrates the reservoir after inferring from the electromagnetic survey that the volume of hydrocarbon is present in the reservoir.

43. (Previously Presented) A method for determining a content of a submarine or subterranean reservoir having an electromagnetic characteristic and having an approximate geometry and location that are known, comprising:

conducting an electromagnetic survey comprising applying a time varying electromagnetic field in the form of a wave to the strata containing the reservoir;

detecting the electromagnetic wave field response; and

analyzing the effects on the characteristics of the detected field that have been caused by the reservoir,

thereby determining the content of the reservoir, based on the analysis, wherein the analysis comprises comparing the electromagnetic characteristic theoretically predicted for the reservoir based on the approximate geometry of the reservoir and based on the reservoir being a water-bearing or hydrocarbon-bearing reservoir to the electromagnetic characteristic for the reservoir that is determined from the detected electromagnetic wave field response of the reservoir, wherein a distance between a transmitter and a receiver is given by the formula $0.5\ \lambda \leq L \leq 10\ \lambda$; where λ is the wavelength of the transmission through an overburden and L is the distance between the transmitter and the receiver; and

preparing a map that comprises a depiction of at least a portion of the content of the reservoir as derived from the electromagnetic survey.

44. (Previously Presented) The method of claim 43, wherein the content of the reservoir comprises oil.

45. (Previously Presented) The method of claim 43, wherein the content of the reservoir comprises natural gas.

46. (Previously Presented) The method of claim 43, wherein the field is applied using at least one stationary transmitter located on the earth's surface.

47. (Previously Presented) The method of claim 43, wherein the at least one transmitter is located proximate a bed of a body of water, the bed including a seabed.

48. (Previously Presented) The method of claim 43, wherein the field is transmitted for a period of time of from 30 seconds to 60 minutes.

49. (Previously Presented) The method of claim 43, wherein the at least one stationary receiver is arranged to detect a direct wave and a wave reflected from the reservoir, and the analysis includes extracting phase and amplitude data of the reflected wave from corresponding data from the direct wave.

50. (Previously Presented) The method of claim 43, wherein the wavelength of the applied time varying electromagnetic field wave is given by the formula

$$0.1s \leq \lambda \leq 10s;$$

where λ is the wavelength of the transmission through an overburden overlying a reservoir and s is the distance from a seabed to the reservoir.

51. (Previously Presented) The method of claim 43, wherein, substantially

$1 = 2s = 2\lambda$, wherein s is a distance from a seabed located over the reservoir to the reservoir.

52. (Previously Presented) The method of claim 43, wherein the transmission frequency of the time varying electromagnetic field is from 0.1 Hz to 1 kHz.

53. (Previously Presented) The method of claim 43, wherein the analysis includes comparing the results of measurements taken with results of a mathematical simulation model based on known properties of the reservoir and conditions of an overburden.

54. (Previously Presented) The method of claim 43, including suppressing a direct wave, thereby reducing the required dynamic range of receivers receiving a reflected wave and increasing resolution of the reflected wave.

55. (Previously Presented) The method of claim 43, including as preliminary steps; performing a seismic survey to determine the geological structure of a region and analyzing the survey to reveal the presence of a subterranean reservoir.

56. (Previously Presented) The method of claim 43, wherein the electromagnetic characteristic theoretically predicted for the reservoir is a member of the group consisting of resistivity and permittivity.

57. (Previously Presented) The method of claim 43, further comprising equipping a vessel with the transmitter.

58. (Previously Presented) The method of claim 57 wherein the vessel is a ship.

59. (Previously Presented) The method of claim 57 wherein the transmitter is attachable to a cable that is attachable to the vessel whereby the transmitter may be deployed by the vessel.

60. (Previously Presented) The method of claim 57 wherein the transmitter comprises a dipole antenna.

61. (Previously Presented) The method of claim 57 further comprising drilling a well that penetrates the reservoir after inferring from the electromagnetic survey that the content of the reservoir comprises hydrocarbon.